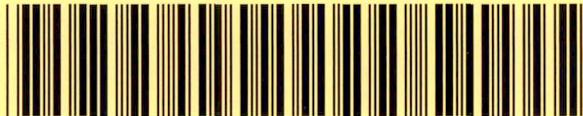


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DocCat FACILITY

**Active Remediation
Monitoring Report
Former Skippers Marina
1156 Perth Road
Troutman, North Carolina**

DENR Incident Number 22425

H&H Job No. KID.004

November 24, 2009

RECEIVED
NCDENR
Division of Waste Management

NOV 25 2009

UST Section
Mooresville Regional Office



2923 South Tryon Street
Suite 100
Charlotte, NC 28203
704-586-0007

3334 Hillsborough Street
Raleigh, NC 27607
919-847-4241

Title Page

Site Information:

Former Skippers Marina
1156 Perth Road
Troutman, North Carolina
Groundwater Incident No. 22425
Lat. N 35° 18' 54" Long. W 77° 47' 41"

RECEIVED
NCDENR
Division of Waste Management

NOV 25 2009

UST Section
Mooresville Regional Office

Risk Classification:

High (water supply wells located within 1,000 ft of source area)

Land Use:

Subject property is commercial and used to fabricate docks and boat lifts. Surrounding properties are residential and site is bordered by Lake Norman.

Property Owner:

Marlan Properties Inc.
1156 Perth Road
Troutman, North Carolina, 28166
(704) 528-7400

UST Operator:

Mr. John Kindley
114 Morlake Drive, Suite 102
Mooresville, North Carolina 28117
(704) 799-9202

Consultant:

Hart & Hickman, PC
2923 South Tryon Street, Suite 100
Charlotte, NC 28203
(704) 586-0007

Release Information:

Date of Release Discovery = January 2001
Quantity of Release = Unknown
Source of Release = UST and/or Associated Piping
Material Released = Unleaded Gasoline

Laboratory: Prism Laboratories, Inc., NC Certification No. 402.

I, Matt Bramblett, a Principal and Licensed Engineer for Hart & Hickman, PC, certify that the information contained in this report is correct and accurate to the best of my knowledge.

Hart & Hickman, PC is licensed to practice geology and engineering in North Carolina. The certification numbers are C-245 and C-1269, respectively.

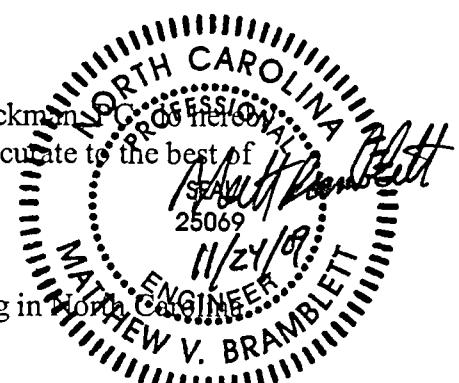


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Active Remediation Monitoring Report

**Former Skippers Marina
Troutman, North Carolina**

1.0 Introduction

On behalf of Mr. John Kindley, Hart & Hickman, P.C. (H&H) has prepared this Active Remediation Monitoring Report for the former Skippers Marina located at 1156 Perth Road in Troutman, Iredell County, North Carolina. A site location map and a site plan are included as Figures 1 and 2, respectively. The property is currently occupied by Lancaster Custom Dock and Lift Systems, Inc. The North Carolina Department of Environment and Natural Resources (DENR) incident number for the site is 22425, and DENR has assigned the site a high-risk classification due to the presence of nearby water supply wells. This report documents the results of groundwater and water supply well sampling performed by H&H in October 2009 and operation and maintenance (O&M) activities for the period of September 2009 through November 2009.

2.0 Site History

A 5,000-gallon kerosene underground storage tank (UST), four gasoline UST's ranging in size from 5,000 to 10,000 gallons, and associated piping/dispensers were removed in January 2001. An initial assessment was conducted and 269 cubic yards of petroleum-impacted soil were removed from the former UST area. No free product was encountered during UST removal.

A Corrective Action Plan (CAP) was submitted to DENR by others in July 2002 which recommended soil and groundwater remediation using an air sparge/soil vapor extraction (AS/SVE) system. Due to Trust Fund prioritization, the remediation system installation was delayed.

DENR issued a letter to Mr. John Kindley dated August 20, 2008 requesting site remediation. In response to the DENR letter, H&H provided a letter dated October 6, 2008 modifying the proposed AS/SVE system layout by taking into consideration recent groundwater analytical results. The proposed AS/SVE system was designed and bid specifications were issued December 15, 2008. Trust Fund pre-approval for the proposed AS/SVE system was obtained.

The AS/SVE system was installed during March and April 2009 with SVE system start-up on April 27, 2009. The AS system start-up occurred on May 4, 2009. The remediation system is comprised of ten SVE wells; seven AS wells; and associated piping, remediation system building and equipment. The SVE system utilizes a Rotron regenerative blower while the sparge air is supplied by a Gardner Denver Endurair air compressor.

3.0 Summary of Potential Receptor Information

3.1 Water Supply Wells

H&H conducted an updated water supply well survey in July 2009 for the area within a 1,500-foot radius of the source area at the request of DENR. The survey was conducted by performing area reconnaissance and checking for municipal water connections. The results of the survey indicate that municipal water is not provided to the site and is not available to properties within a 1,500-foot radius of the site.

A total of 13 water supply wells were located within 1,000 ft of the source area. An additional 32 potential water supply wells were observed on properties located between approximately 1,000 and 1,500 ft of the source area with one previously identified supply well no longer in use. The on-site supply well WSW-12 is in use, but it is not used for drinking water according to the site owner and occupant Mr. Mark Lancaster. H&H sampled WSW-12 for volatile organic compounds (VOCs) using Standard Method 6200B. H&H identified low concentrations of tetrachlorothene (PCE) in WSW-12 during the October 2009 sampling event (0.69 µg/l). The Federal drinking water standard for PCE is 5 µg/l, and the groundwater standard is 0.7 µg/l. PCE is not a gasoline constituent or a petroleum-related compound and no other compounds were detected in the water supply well. The source of the PCE is unknown, but it is not related to the former Skipper's Marina UST system.

The water supply well owner information and well location map are included in Figure 3 and Appendix A. Water supply well analytical results are provided in Appendix B.

3.2 Surface Water

The nearest surface water is Lake Norman which is located approximately 100 ft to the south of the source area (Figure 2). There are monitoring wells without detectable impacts between the lake and the petroleum groundwater plume. In addition, active remediation should prevent groundwater impacts from significantly affecting Lake Norman.

4.0 Groundwater Sampling

4.1 Water Levels

On October 26, 2009, H&H gauged water levels in the site monitoring wells (Table 1). No free product was detected in any of the site monitoring wells. The estimated water table elevations in October 2009 are depicted in Figure 4. The estimated water table surface based on October 2009 groundwater elevations indicate the groundwater flow direction in the vicinity of the former UST source area is to the east and east-southeast.

4.2 Monitoring Well and Water Supply Well Analytical Data

Site monitoring wells MW-1, MW-2, MW-3, MW-5B, MW-6B, MW-7 through MW-13, MW-15B, and TW-1 were sampled on October 26, 2009. TW-1 is a deeper Type III monitoring well. Prior to sampling, dissolved oxygen readings were obtained, and then the monitor wells were purged until pH, temperature, and conductivity stabilized. Groundwater samples were then collected using dedicated polyethylene bailers, poured in laboratory supplied containers, marked with identifying labels, and placed in an iced cooler for shipment under chain-of-custody to a certified laboratory for analysis. Water samples were analyzed for volatile organic compounds (VOCs) by Standard Method 6200B (Table 2).

Petroleum-related impacts were detected above groundwater standards in monitoring wells MW-1, MW-3, MW-5B, MW-8 and MW-11. The highest concentrations were detected in monitoring well MW-5B, which is located just downgradient of the source area. Benzene was detected in MW-5B at a concentration of 3,400 µg/l.

Isoconcentration maps of BTEX, benzene, xylenes and methyl tertiary butyl ether (MTBE) in shallow groundwater wells are included as Figures 5 through 8, respectively. The plume maps

indicate that impacted groundwater is generally limited to the area within the subject site property boundaries. However, 980 µg/l of MTBE was detected in off-site well MW-8 compared to the groundwater standard of 200 µg/l. Groundwater sampling results are summarized in Table 2, and historical groundwater sampling results obtained by others are provided in Appendix C.

In addition to petroleum related compounds, low levels of 1,2-dichloropropane (1,2-DCP) and the solvent tetrachloroethene (PCE) were detected east of Perth Road. PCE was detected in monitoring well MW-9 (0.68 µg/l) and 1,2-DCP was detected in MW-8 (0.75 µg/l). The groundwater standard for PCE is 0.7 µg/l and for 1,2-DCP is 0.51 µg/l. The source of the PCE and 1,2-DCP detections are unknown, but they are not related to the former Skipper's Marina UST system. 1,2-DCP may have been used as a gasoline additive.

Sampling results indicate that deeper groundwater is not impacted at the site. No impacts were detected in a groundwater sample collected from deeper well TW-1.

Site monitoring wells were also gauged for dissolved oxygen and other geochemical parameters during the October 29 sampling event. The geochemical results are provided in Table 3. Dissolved oxygen levels outside the source area ranged from 1.47 mg/l (MW-11) to 0.17 mg/l (MW-7). Monitoring wells located within the remediation area ranged from 8.12 mg/l (MW-1) to 0.08 mg/l (MW-5B).

4.3 Groundwater Concentration Trends

Comparing October 2009 groundwater sampling results to the April 2009 baseline sampling results, target compound concentrations have decreased in the area of treatment since start-up of the remediation system. Since system start-up, MW-1 total BTEX has decreased from 8,180 µg/l to 5,160 µg/l and MW-5B total BTEX concentrations have decreased from 5,698 µg/l to 4,892 µg/l. The only exception may be MTBE concentrations which have fluctuated in MW-5B and MW-8.

5.0 Remediation System Installation and Startup

The SVE/AS remediation system was installed during March and April 2009 with system start-up on April 27, 2009. The remediation system layout is provided in Figure 9. The SVE system consists of ten four-inch diameter SVE wells (SVE-1 through SVE-10). SVE-1 was previously installed to a depth of 8 ft with a 6 ft section of well screen. The other SVE wells were installed to a depth of 9 ft with a 5 ft section of 0.010 slot screen. The SVE wells are divided into two "fields" to increase overall system effectiveness. Four SVE wells are tied into one field and are installed in the former tank basin, while six SVE wells are installed as a separate field. The vacuum to each of the two fields can be independently controlled, and air flow from each field can be independently measured. The SVE system utilizes a Rotron 5.0 hp regenerative blower (Model EN 707) rated at 240 cubic feet per minute (cfm) of air at a vacuum of 30 inches of water.

The air sparge system consists of seven two-inch diameter air sparge wells (AS-1 through AS-7). AS-1 was previously installed to a depth of 25 ft with a 3 ft section of well screen. The other AS wells were installed to a depth of 30 ft with a 5 ft section of 0.010 well screen. The air sparge system utilizes a Gardner Denver 7.5 hp (Endurair) rotary screw compressor rated at 29 cfm at 100 pounds per square inch (psi). The AS wells are being run continuously, but they can be cycled for preset lengths of time in the future if desired.

Both systems are designed to operate continuously unless the SVE system shuts down. If this takes place, the AS system will automatically cease operation until the SVE system is automatically or manually restarted.

H&H monitors the performance of the SVE/AS system by conducting monthly O&M visits. The SVE system operation status, number of hours of operation, inlet vacuum, air flow, and air discharge organic vapor analyzer readings are recorded (Table 4). In addition, the AS system

operation status, number of hours of operation, compressor pressure, air flow to each well, and air pressure to each well are recorded (Table 5). An O&M log sheet is completed during each site visit and kept in a bound folder.

An air sample was collected from the SVE system off-gas on October 26, 2009 to help gauge the systems effectiveness (Appendix B). SVE System off-gas concentrations and mass removal rates are presented in Tables 6 and 7. Estimated total petroleum hydrocarbons removed by the system during the reporting period is 173 lbs, and the cumulative removed to date since system start-up on April 27, 2009 is 857 lbs. Based on the data and information collected during O&M visits, the AS/SVE remedial system appears to be operating as designed.

6.0 Conclusions and Recommendations

The former Skippers Marina facility site is a high risk site due to the existence of an onsite water supply and additional water supply wells within 1,000 ft of the source area. DENR issued a letter to Mr. John Kindley dated August 20, 2008 requesting site remediation. In response to the DENR letter, H&H provided a letter dated October 6, 2008 modifying the originally proposed AS/SVE system layout by taking into consideration recent groundwater results. The proposed AS/SVE system was designed and bid specifications were issued December 15, 2008. Trust Fund pre-approval for the proposed AS/SVE system was obtained.

The AS/SVE system was installed during March and April 2009 with SVE system start-up on April 27, 2009. The AS system start-up occurred on May 4, 2009. The remediation system is comprised of ten SVE wells; seven AS wells; and associated piping, remediation system building and equipment. Quarterly data indicates that approximately 173 pounds of petroleum hydrocarbons were removed during the most recent quarter (September – November) of system operation.

Site monitoring wells were sampled on October 26, 2009. Petroleum impacted groundwater extends from the former UST basin primarily to the east. No petroleum-related impacts were detected in the on-site water supply well. Petroleum-related impacts were detected above groundwater standards in five monitoring wells. The highest concentrations were detected in monitoring well MW-5B, which is located just downgradient of the source area. Benzene was detected in MW-5B at a concentration of 3,400 µg/l. Most petroleum-related constituents in the remediation system treatment area decreased between April 2009 and October 2009.

Based on the results of the recent system performance sample and groundwater sampling event, H&H recommends continued operation of the AS/SVE remediation system. Additionally, H&H recommends quarterly groundwater sampling of monitor wells and the on-site water supply well for

the first year of system operation and semi-annually thereafter. With Trust Fund pre-approval, the next quarterly groundwater and remediation system off-gas sampling event will be conducted in January 2010 with an Active Remediation Monitoring Report to be submitted in February 2010.

Table 1
Monitoring Well Summary
Former Skippers Marina
Troutman, North Carolina
H&H Job No. KID-004

Monitoring Well Identification	Well TOC Elevation (ft)	Total Depth (ft)	Well Diameter (in)	Screen Length (ft)	November 19, 2008		April 3, 2009		July 27, 2009		October 26, 2009	
					TOC Water Table Depth (ft)	Water Table Elevation (ft)	TOC Water Table Depth (ft)	Water Table Elevation (ft)	TOC Water Table Depth (ft)	Water Table Elevation (ft)	TOC Water Table Depth (ft)	Water Table Elevation (ft)
MW-1	100.00	18.0	2.0	15	9.13	90.87	8.41	91.59	9.42	90.58	9.39	90.61
MW-2	101.83	20.0	2.0	15	10.93	90.90	10.22	91.61	10.74	91.09	11.09	90.74
MW-3	98.32	18.0	2.0	15	7.46	90.86	6.69	91.63	7.65	90.67	7.81	90.51
MW-5B	98.88	16.0	2.0	10	8.02	90.86	7.26	91.62	8.23	90.65	8.32	90.56
MW-6B	92.64	11.5	2.0	10	1.88	90.76	0.92	91.72	1.86	90.78	1.24	91.40
MW-7	98.80	15.0	2.0	10	7.93	90.87	7.11	91.69	7.97	90.83	8.19	90.61
MW-8	99.15	18.0	2.0	15	8.35	90.80	7.59	91.56	8.53	90.62	8.71	90.44
MW-9	98.65	18.0	2.0	15	7.82	90.83	7.01	91.64	8.02	90.63	8.22	90.43
MW-10	99.94	20.0	2.0	15	9.13	90.81	8.35	91.59	9.10	90.84	9.31	90.63
MW-11	104.94	20.0	2.0	15	14.21	90.73	13.45	91.49	14.40	90.54	14.62	90.32
MW-12	101.38	18.0	2.0	15	10.68	90.70	9.86	91.52	10.92	90.46	11.06	90.32
MW-13	94.28	12.0	2.0	10	3.59	90.69	2.67	91.61	3.75	90.53	3.99	90.29
MW-14	103.40	15.5	2.0	10	12.69	90.71	11.84	91.56	12.82	90.58	13.12	90.28
MW-15B	100.98	20.0	2.0	15	10.06	90.92	9.31	91.67	9.80	91.18	10.19	90.79
TW-1	99.84	43.0	2.0	5	not gauged	not gauged	8.21	91.63	9.09	90.75	9.22	90.62

Notes:

5/21/08 - MW-5B was installed as a replacement for MW-5; MW-6B was installed as a replacement for MW-4 and MW-6; MW-15B was installed as a replacement for MW-15

DNE = Did Not Exist

TOC = Top of casing

TOC based on arbitrary benchmark of MW-1 at 100-feet

TOC elevations revised by H&H using surveying techniques on July 27, 2009

alytical Results
bers Marina
orth Carolina
o. KID-004

ethod - 6200 B (μ g/L)

Table 2
Ground Water Analytical Results
Former Skippers Marina
Troutman, North Carolina
H&H Job No. KID-004

		Method - 6200 B ($\mu\text{g/L}$)																		
Sample ID	Date	1,2,4-Trimethylbenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	Benzene	Chloroform	Ethylbenzene	Isopropylbenzene	m,p, and o-Xylenes	p-Isopropyltoluene	MTBE	n-Butylbenzene	n-Propylbenzene	Naphthalene	sec-Butylbenzene	Syrene	Tetrachloroethylene	Toluene	
NC 2L Standard		350	0.38	0.51	350	1	70	550	70	70	530	NS	200	70	70	21	70	100	0.7	1.0
MW-1	4/3/2009	700	<0.5	<0.6	200	1,600	<0.5	1,200	<0.5	39	3,380	<20	<0.5	<1.0	110	400	<0.5	<20	<0.5	2.0
	7/27/2009	650	<5.0	<5.0	200	1,200	<5.0	650	<5.0	28	2,620	<5.0	<5.0	13	86	190	<5.0	6.7	<5.0	2.2
	10/26/2009	450	<5.0	<5.0	150	790	<5.0	480	<5.0	19	1,790	<5.0	<5.0	25	53	210	<5.0	7.1	<5.0	2.1
MW-2	4/3/2009	23	<0.5	<0.5	<0.5	0.7	3.3	<0.5	<0.5	6.2	12	<0.5	1.4	1.8	0.85	11	8.3	<0.5	<0.5	<0
	7/27/2009	26	<0.5	<0.5	<0.5	0.52	2.8	<0.5	<0.5	7.4	12	3.3	0.89	1.8	1.2	13	9	<0.5	<0.5	<0
	10/26/2009	32	<0.5	<0.5	<0.5	0.51	3.4	<0.5	<0.5	10	13	4.5	0.67	2.8	1.4	14	14	<0.5	<0.5	<0
MW-3	4/3/2009	1.6	<0.5	<0.5	<0.5	12	<0.5	24	<0.5	3.0	3.6	<0.5	<0.5	1.2	5.4	9.5	1.1	<0.5	<0.5	2.
	7/27/2009	1.7	<0.5	<0.5	<0.5	11	<0.5	29	<0.5	5.0	7.0	<0.5	<0.5	1.2	6.7	10	0.74	<0.5	<0.5	1.
	10/26/2009	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	6.6	<0.5	1.6	<1.0	<0.5	<0.5	<1.0	1.8	2.4	<0.5	<0.5	<0.5	1.
MW-5B	4/3/2009	380	<0.5	<0.5	160	4,000	<0.5	1,000	<0.5	42	548	<20	290	<1.0	140	390	<0.5	<20	<0.5	15
	7/27/2009	320	<20	<20	140	3,500	<20	880	<20	50	310	<20	460	<40	140	330	<20	<20	<20	8
	10/26/2009	440	<20	<20	180	3,400	<20	1,100	<20	67	525	<20	520	44	180	410	<20	<20	<20	14
MW-6B	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
MW-7	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
MW-8	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	1300	<10	<5.0	<20	<5.0	<5.0	<5.0
	10/26/2009	<0.5	1.6	0.75	<0.5	0.66	<0.5	<0.5	3.2	1.4	<1.0	<0.5	980	<1.0	<0.5	<2.0	1.4	<0.5	<0.5	2.5
MW-9	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	0.8
	7/27/2009	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	7.2	<1.0	<0.5	<2.0	<0.5	<0.5	0.68
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	1.7	<1.0	<0.5	<2.0	<0.5	<0.5	0.68
MW-10	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	4.2	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	7.4	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	13	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5
MW-11	4/3/2009	<0.5	9.7	<0.5	<0.5	3.6	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<0.5	8.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	10/26/2009	<0.5	4.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
MW-12	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
MW-13	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
MW-15B	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
TW-1	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
WSW-12	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0

ctes:
old indicates that concentrations exceed the standard
nly compounds detected in at least one sample shown above
S = No NC 2L Groundwater Standard
C 2L Standard=North Carolina Groundwater Quality Standard (15A NCAC 2L .0202)
nly sampled for Volatile Organic Compounds (VOCs)

Table 3
Ground Water Geochemical Results
Former Skippers Marina
Troutman, North Carolina
H&H Job No. KID-004

Well ID	Sample Date	Dissolved Oxygen (mg/l)	ORP (mV)	pH (standard units)	Temperature (°C)	Specific Conductivity (umhos/cm)
MW-1	4/3/2009	NA	NA	6.19	18.1	295.0
	7/27/2009	NA	-16	6.46	22.8	132.5
	10/26/2009	8.12	-31	6.41	23.2	136.1
MW-2	4/3/2009	NA	NA	4.06	NA	NA
	7/27/2009	NA	321	5.06	21.1	76.15
	10/26/2009	1.07	285	5.10	21.8	70.01
MW-3	4/3/2009	NA	NA	6.09	18.1	173.0
	7/27/2009	NA	7	6.05	22.3	114.9
	10/26/2009	0.90	209	5.76	24.0	96.75
MW-5B	4/3/2009	NA	NA	6.49	16.9	382.0
	7/27/2009	NA	-80	6.44	21.8	436.9
	10/26/2009	0.08	-76	6.38	22.4	439.0
MW-6B	4/3/2009	NA	NA	5.10	NA	200.0
	7/27/2009	NA	300	5.78	28.3	130.3
	10/26/2009	0.97	245	5.66	22.5	129.4
MW-7	4/3/2009	NA	NA	4.92	NA	155.0
	7/27/2009	NA	306	4.86	22.8	129.7
	10/26/2009	0.17	275	4.90	23.7	191.5
MW-8	4/3/2009	NA	NA	5.37	16.33	136.0
	7/27/2009	NA	179	5.68	18.5	174.8
	10/26/2009	0.61	104	5.60	19.3	200.6
MW-9	4/3/2009	NA	NA	5.44	15.33	173.0
	7/27/2009	NA	85	5.92	18.1	154.3
	10/26/2009	0.46	45	5.79	19.3	160.8
MW-10	4/3/2009	NA	NA	4.38	16.56	111.0
	7/27/2009	NA	374	4.67	19.1	101.1
	10/26/2009	0.69	292	4.78	19.5	124.0
MW-11	4/3/2009	NA	NA	4.52	14.33	34.00
	7/27/2009	NA	344	5.01	15.1	42.91
	10/26/2009	1.47	261	5.09	15.9	55.10
MW-12	4/3/2009	NA	NA	4.72	14.0	67.00
	7/27/2009	NA	224	5.09	15.6	76.09
	10/26/2009	0.65	205	5.05	16.5	88.37
MW-13	4/3/2009	NA	NA	5.10	12.78	210.0
	7/27/2009	NA	60	5.50	19.4	138.1
	10/26/2009	1.17	67	5.47	18.2	229.5
MW-15B	4/3/2009	NA	NA	5.29	16.9	354.0
	7/27/2009	NA	297	5.26	19.7	458.1
	10/26/2009	0.74	261	5.09	21.1	516.4
TW-1	4/3/2009	NA	NA	5.45	19.2	58.00
	7/27/2009	NA	210	6.37	20.2	66.66
	10/26/2009	3.93	49	6.22	19.5	71.43

Notes:

NA = Not Analyzed

On April 3, 2009 equipment malfunctions prevented reading ORP and Specific Conductivity

Table 4
Soil Vapor Extraction System Data
Former Skippers Marina
Troutman, North Carolina
II&II Job No. KID.004

O&M Date	System Running Upon Arrival	Blower Hour Meter	Blower Vacuum ("H ₂ O)	Field # 1 Air Flow (scfm/"H ₂ O)	Field # 2 Air Flow (scfm/"H ₂ O)	Total Air Flow (scfm)	Discharge Temp (°F)	PID Off-Gas Concentration (ppm)	Additional Comments
4/27/2009	No	0.0	54	5.5 / 30"	9.0 / 30"	171	<130	245	Initial start-up of system
5/5/2009	Yes	28.2	54	5.2 / 34	3.6 / 34	168	130	430	Hour meter rewired since last visit
5/11/2009	Yes	171.4	56	5.2 / 36	3.6 / 36	168	<130	160	Sampled SVE051109 @ 14:30
5/19/2009	Yes	358.8	52-68	5.2 / 55	3.6 / 55	150	135	190	Increased vac to wells after arriving
6/23/2009	Yes	1201.7	55	5.2 / 55	3.6 / 55	140	175	225	
7/27/2009	Yes	2015.2	55	5.2 / 55	3.6 / 55	133	180	78	Sampled SVE072709 @ 10:30
8/14/2009	Yes	2449.0	55	5.2 / 55	3.6 / 55	126	180	140	
9/25/2009	Yes	3413.3	78	5.2 / 50	3.6 / 50	126	170	158	
10/23/2009	Yes	4091.1	NA	5.2 / 45	3.6 / 45	157	180	NA	Bleed-air obstruction removed.
10/26/2009	Yes	4156.2	70	5.2 / 52	3.0 / 52	154	145	28	Sampled SVE102609 @ 1045
11/6/2009	Yes	4421.6	70	5.2 / 52	3.6 / 52	157	145	38	

Notes:

SVE System Started on April 27, 2009

PID = Photo Ionization Detector

NA = Not Available

stem Data
ers Marina
th Carolina
.KID.004

Sparge Well AS-4		Sparge Well AS-5		Sparge Well AS-6		Sparge Well AS-7		Additional Comments
Air Flow (scfm)	Pressure (psi)							
5	8.0	1.5	7.0	1.5	7.0	1.5	8.0	Initial system start-up by Enviro-Equipment, 5/4/09
5	10.0	1.5	9.0	1.5	9.0	1.5	9.0	
5	9.0	1.5	8.5	1.5	9.0	1.5	8.0	
5	9.5	2.4	8.0	2.4	9.0	2.5	9.5	
0	9.0	2.2	8.0	2.0	8.0	2.0	8.0	
1	10.0	2.0	8.0	2.0	8.0	2.0	8.0	
0	8.0	2.0	8.0	2.0	9.0	2.0	8.0	
5	10.0	2.5	8.0	2.5	9.0	2.5	8.5	
5	10.0	2.5	8.0	2.5	9.0	2.5	8.5	
5	10.0	2.5	8.0	2.5	9.0	2.5	8.0	

Air Sparg
Former SI
Troutman,
H&H Jo

O&M Date	System Running Upon Arrival	Compressor Hour Meter	Compressor Pressure (psi)	Manifold Pressure (psi)	Sparge Well AS-1		Sparge Well AS-2		Sparge Well AS-3	
					Air Flow (scfm)	Pressure (psi)	Air Flow (scfm)	Pressure (psi)	Air Flow (scfm)	Pressure (psi)
5/5/2009	Yes	30.0	100	35	1.4	6.0	1.5	7.0	1.5	8.0
5/11/2009	Yes	172.0	98	35	1.5	7.0	1.5	9.5	1.6	9.5
5/19/2009	Yes	360.0	100	35	1.8	8.0	1.6	9.0	1.5	10.0
6/23/2009	Yes	1202.0	80	40	2.4	8.0	2.5	8.0	2.5	10.0
7/27/2009	Yes	1420.0	90	38	2.2	6.0	2.2	8.0	2.0	10.0
8/14/2009	No	1587.0	90	40	2.0	6.0	2.0	9.0	2.0	11.0
9/25/2009	Yes	2594.0	80	35	2.0	5.0	2.0	8.0	2.0	9.0
10/23/2009	Yes	3272.0	85	35	2.5	9.0	2.5	9.0	2.4	10.0
10/26/2009	Yes	3337.0	100	35	2.5	8.0	2.5	8.0	2.5	10.0
11/16/2009	Yes	3602.0	100	36	2.5	8.0	2.5	10.0	2.5	10.0

Notes:

Air sparging system started on May 4, 2009

NA = Not Available

Table 6
Summary of Off-Gas Sampling Results (mg/m³)
Former Skippers Marina
Troutman, North Carolina
H&H Job No. KID.004

Sample ID	SVE051109 5/11/2009	SVE072709 7/27/2009	SVE102609 10/26/2009
Analytical method	VOC's (Method 18)	VOC's (Method 18)	VOC's (Method 18)
Benzene	<5.0	5.7	<2.0
Ethylbenzene	5.2	<2.0	<2.0
Toluene	7	10	<10
Xylene	3.3	8.2	<6.0
MTBE	<5.0	<10.0	<10
TRPH (based on Benzene)	600	490	140

Notes:

TRPH = Total recoverable petroleum hydrocarbons

VOCs = Volatile organic compounds

MTBE = methyl tert butyl ether

Removal Rates

Tugboat Remedial System

Port Marina

South Carolina

KID.004

Estimated Mass Removal Rate					Estimated Mass Removed During Period					
Toluene	Ethyl-benzene	Xylenes	MTBE	TRPH C4-C10	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	TRPH C4-C10
(lb/day)	(lb/day)	(lb/day)	(lb/day)	(lb/day)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb)
0.11	0.08	0.05	0.00	9.07	0.00	1.48	1.10	0.70	0.00	126.95
0.12	0.00	0.10	0.00	5.86	6.48	1.68	0.00	1.37	0.00	556.94
0.00	0.00	0.00	0.00	1.83	0.00	0.00	0.00	0.00	0.00	173.48
				Totals	6	3	1	2	0	857

Tal
Estimated Mass
Soil Vapor Extraction/Air
Former Skip
Troutman, N
H&H Job I

No. of days of operation in period	Dates of operation	Average Flow Rate (scfm)	Off-Gas sample collection date	Off-Gas Analytical Results							Benzene (lb/day)
				Benzene (mg/m³)	Toluene (mg/m³)	Ethyl-benzene (mg/m³)	Xylenes (mg/m³)	MTBE (mg/m³)	TRPH C4-C10 (mg/m³)	Benzene (mg/m³)	
14	4/27/2009 to 5/11/2009	168	5/11/2009	<5.0	7	5.2	3.3	<5.0	600	0.00	
95	5/11/2009 to 8/14/2009	133	7/27/2009	5.7	10	<2.0	8.2	<10	490	0.07	
83	8/15/2009 to 11/06/2009	145	10/26/2009	<2	<2	<10	<6	<10	140	0.00	

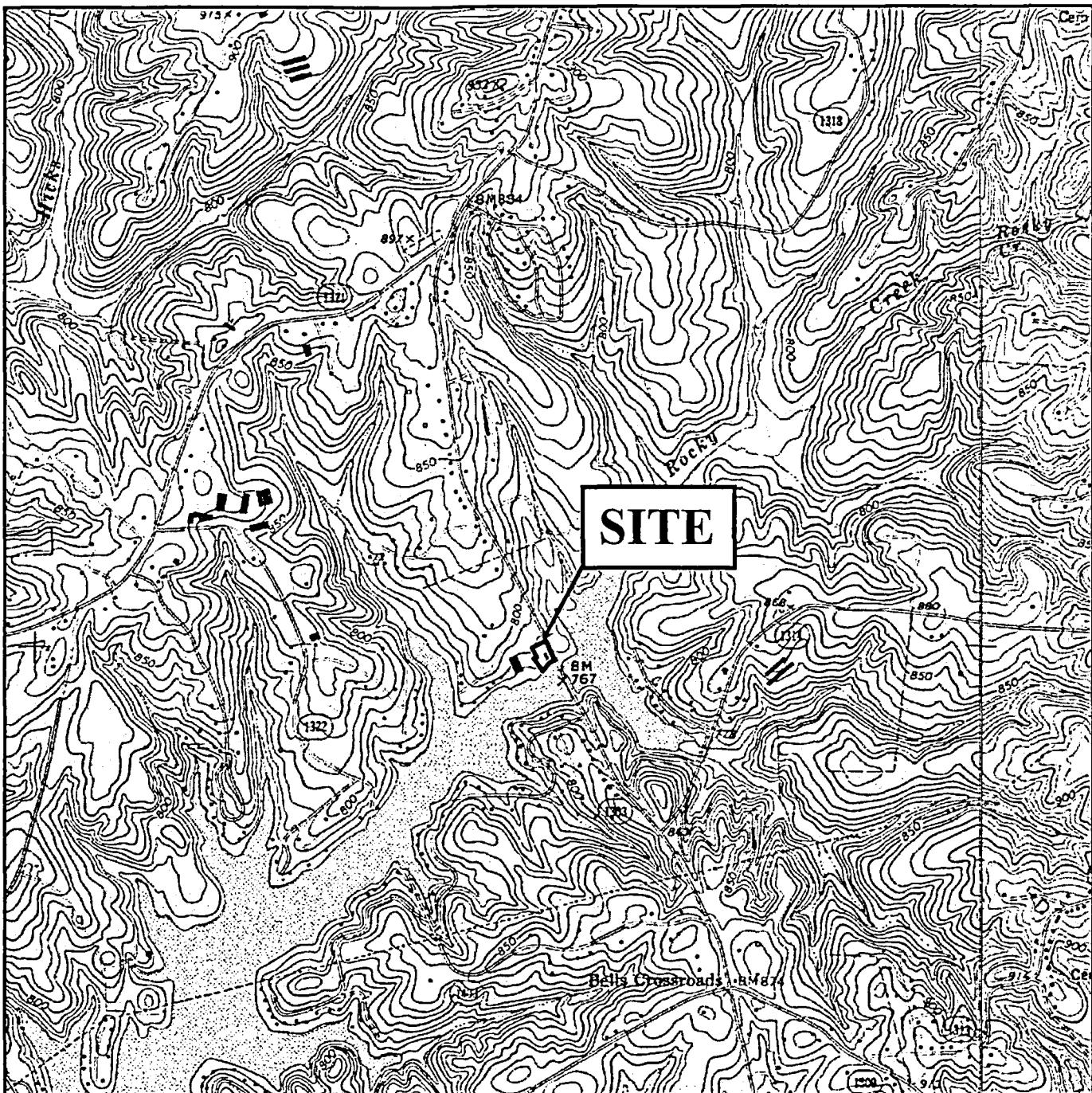
Notes:

System start-up was April 27, 2009

Mass removed = off-gas emission rate X average flow rate (applying appropriate unit conversions)

Totals = daily mass removed X number of days in period

TRPH = Total Recoverable Petroleum Hydrocarbons



APPROXIMATE
0 2000 4000
SCALE IN FEET

U.S.G.S. QUADRANGLE MAP

TROUTMAN, N.C. 1993

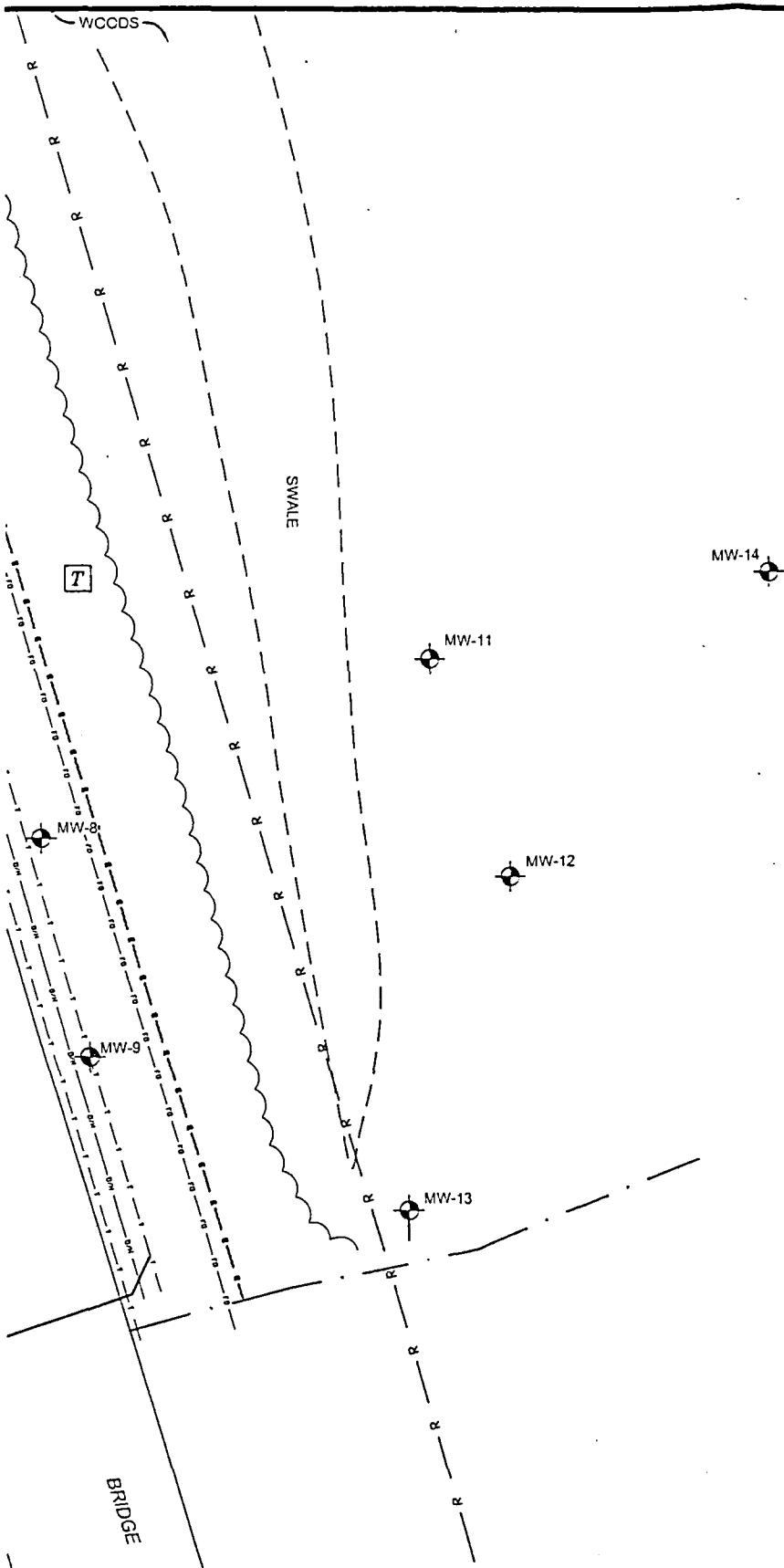
QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE		SITE LOCATION MAP
PROJECT		
FORMER SKIPPER'S MARINA TROUTMAN, NORTH CAROLINA		
 Hart & Hickman A PROFESSIONAL CORPORATION		
DATE:		8-24-09
JOB NO:		KID-004
REVISION NO:		0
FIGURE NO:		1

2923 South Tryon Street-Suite 10C
 Charlotte, North Carolina 28203
 704-586-0007 (p) 704-586-0373 (f)

LEGEND

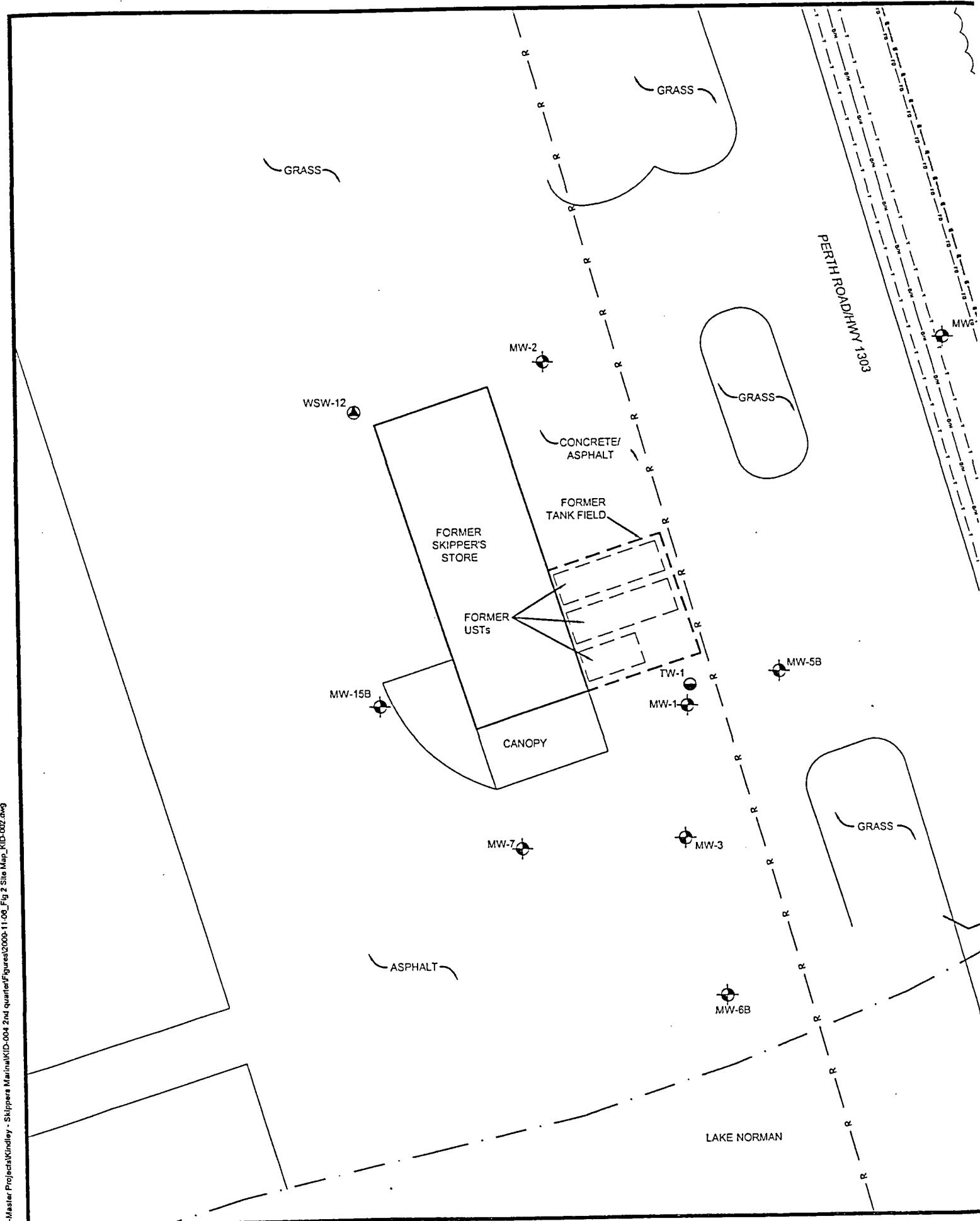
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- TYPE III MCNITORING WELL
- WATER SUPPLY WELL
- TELEPHONE BOX
- DITCH
- SHORELINE
- DM DM ELECTRIC LINE (OVERHEAD)
- ro ro FIBER OPTIC LINE (UNDERGROUND)
- t t TELEPHONE LINE (UNDERGROUND)
- R PERTH ROAD RIGHT OF WAY LINE



N

APPROXIMATE
30 60
SCALE IN FEET

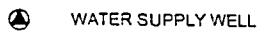
TITLE	
PROJECT	
FORMER SKIPPER'S MARINA TROUTMAN, NORTH CAROLINA	
 Hart & Hickman A PROFESSIONAL CORPORATION 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f)	
DATE: 8-24-09	REVISION NO. 0
JOB NO: KID-004	FIGURE NO. 2



LEGEND

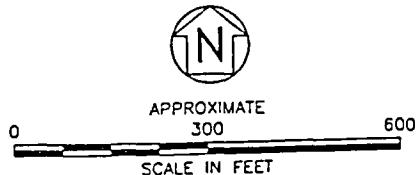
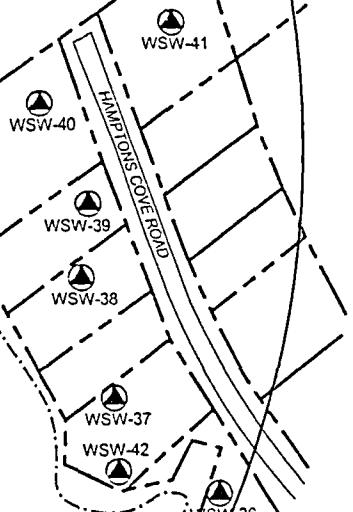
— PROPERTY BOUNDARY

- - - EDGE OF WATER



WATER SUPPLY WELL

BASED ON 2001 RECEPTOR
SURVEY BY OTHERS AND
JULY 2009 UPDATE
PERFORMED BY H&H



TITLE
WATER SUPPLY WELL LOCATION MAP

PROJECT

FORMER SKIPPER'S MARINA
TROUTMAN, NORTH CAROLINA



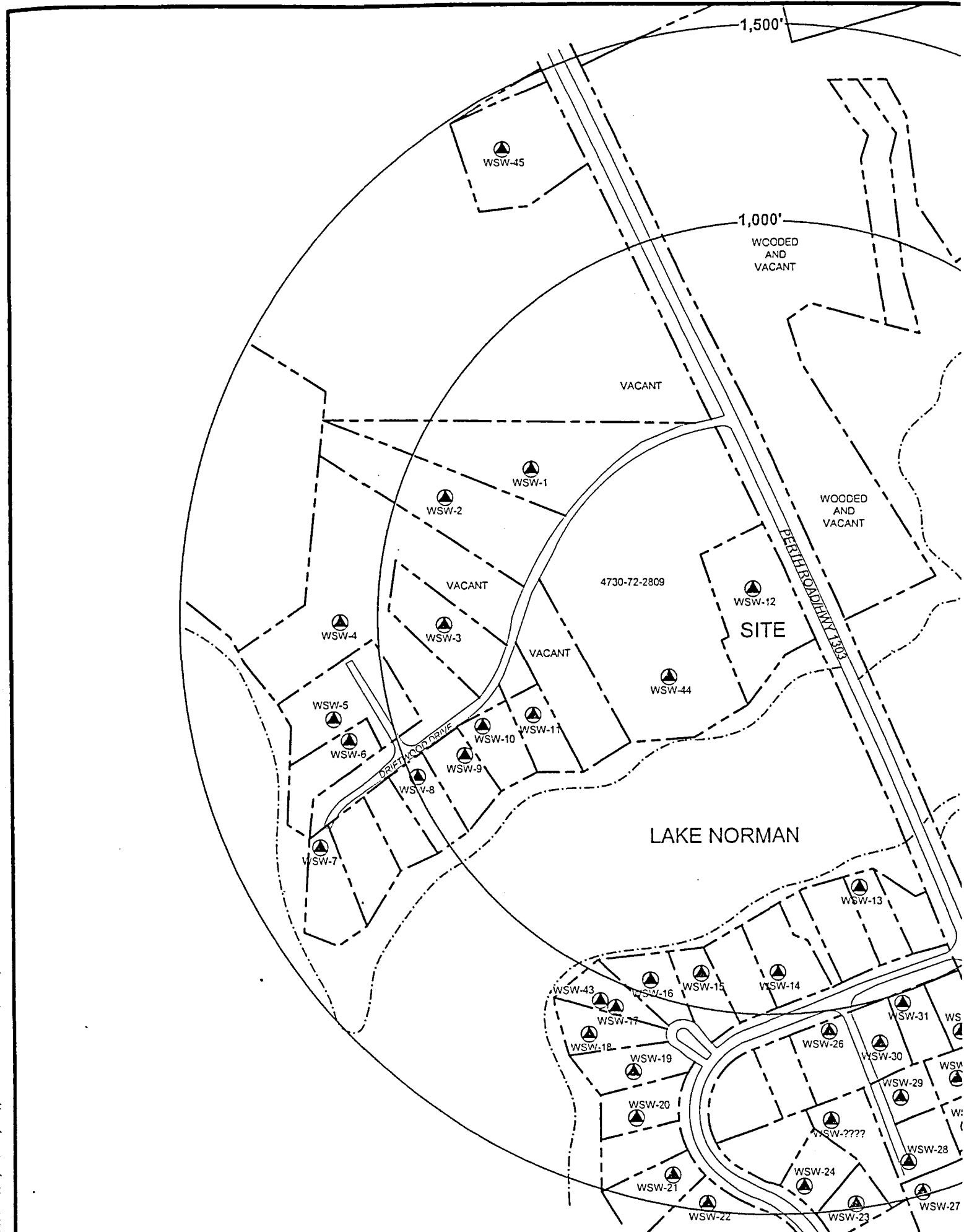
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

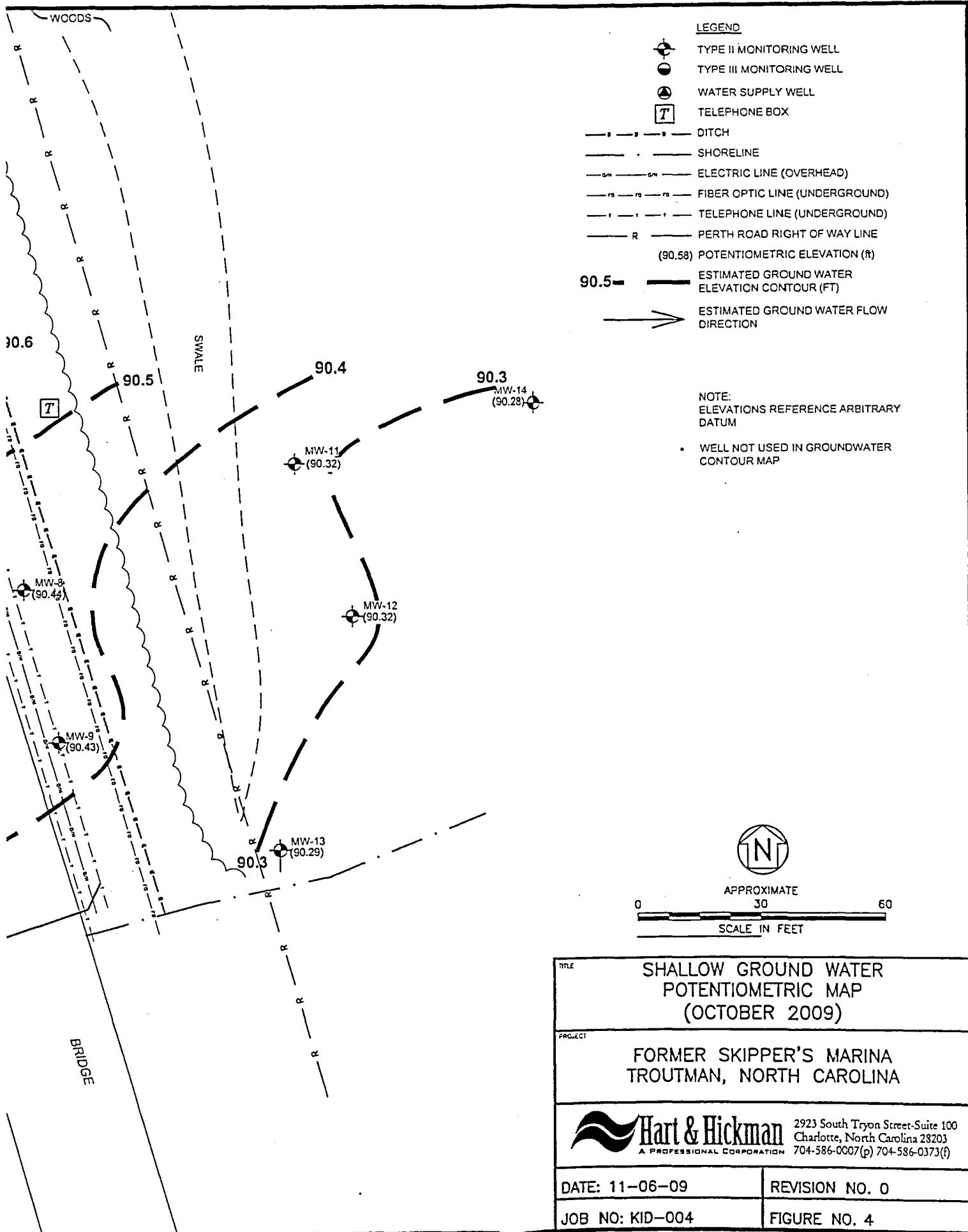
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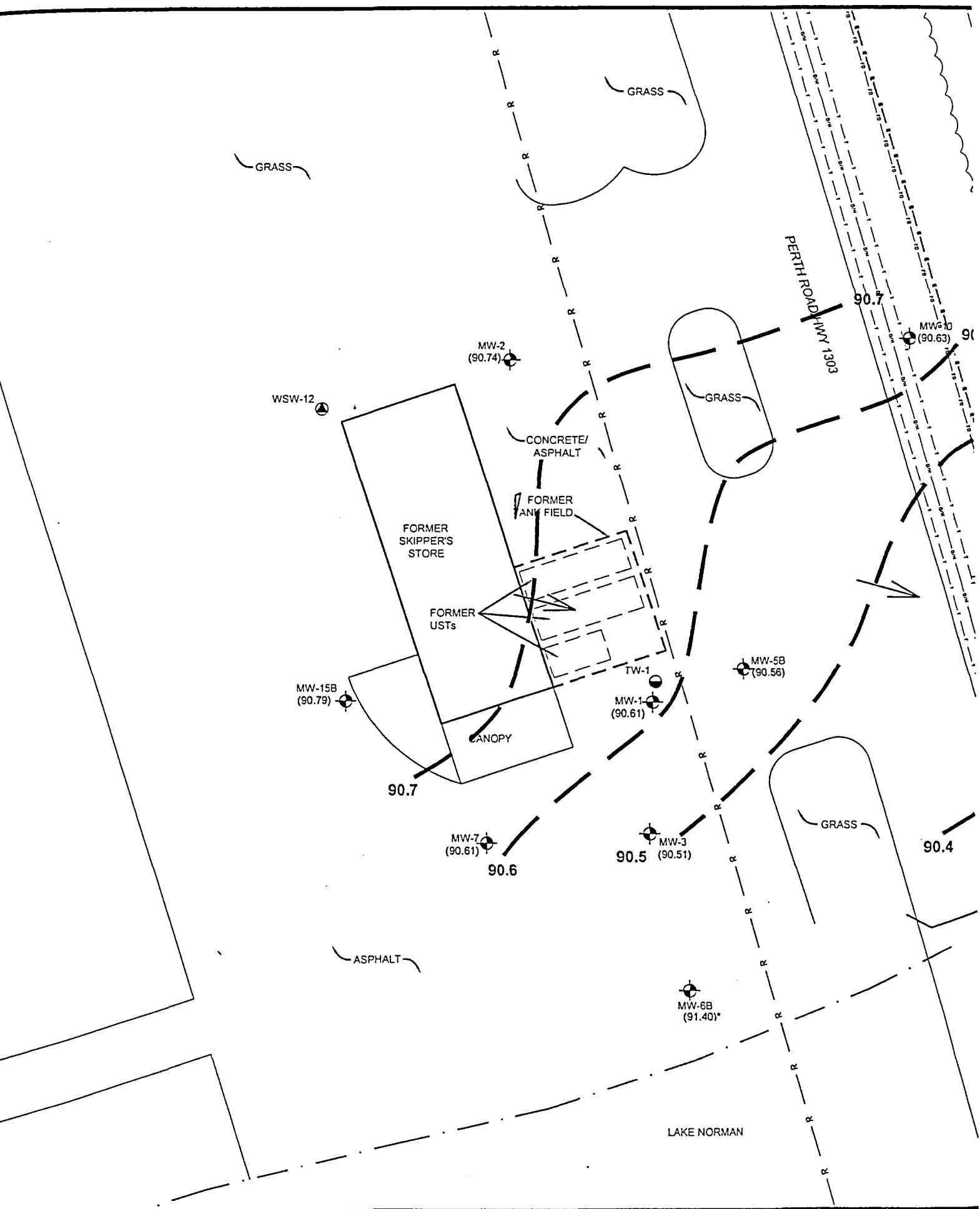
REVISION NO. 0

JOB NO: KID-004

FIGURE NO. 3







**WATER SUPPLY WELL SURVEY
FORMER SKIPPER'S MARINA
TROUTMAN, NORTH CAROLINA**

H&H JOB # KID - 004

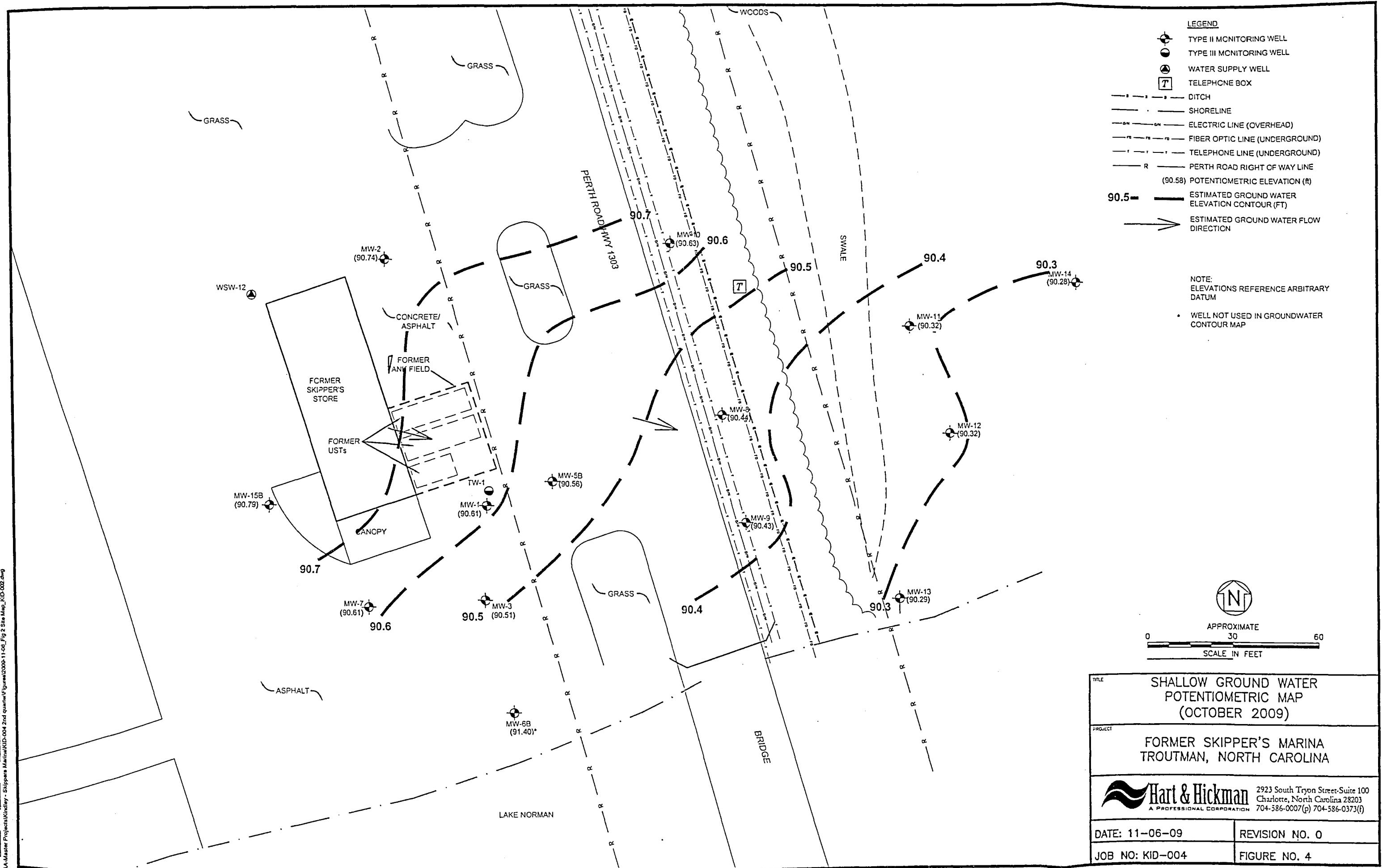
WELL #	PARCEL NUMBER	DISTANCE FROM SOURCE AREA (ft)	WELL DEPTH	ACTIVE/INACTIVE
WSW - 1	4730-60-8292	~700	Unknown	Active
WSW - 2	4730-63-7131	~900	Unknown	Active
WSW - 3	4730-62-7800	~850	Unknown	Active
WSW - 4	4730-62-4886	~1,100	Unknown	Active
WSW - 5	4730-62-3682	~1,150	Unknown	Active
WSW - 6	4730-62-4408	~1,125	Unknown	Active
WSW - 7	4730-62-3197	~1,250	Unknown	Active
WSW - 8	4730-62-6368	~950	Unknown	Active
WSW - 9	4730-62-7443	~850	Unknown	Active
WSW - 10	4730-62-8540	~800	Unknown	Active
WSW - 11	4730-62-9699	~550	Unknown	Active
WSW - 12	4730-72-5706	~50	Unknown	Active
WSW - 13	4730-72-7067	~650	Unknown	Active
WSW - 14	4730-71-5929	~850	Unknown	Active
WSW - 15	4730-71-3932	~850	Unknown	Active
WSW - 16	4370-71-2904	~900	Unknown	Active
WSW - 17	4730-71-1902	~1,020	Unknown	Inactive
WSW - 18	4730-71-0873	~1,075	Unknown	Active
WSW - 19	4730-71-1735	~1,150	Unknown	Active
WSW - 20	4730-71-1666	~1,230	Unknown	Active

APPENDIX B

WELL #	PARCEL NUMBER	DISTANCE FROM SOURCE AREA (ft)	WELL DEPTH	ACTIVE/INACTIVE
WSW - 21	4730-71-1496	~1,350	Unknown	Active
WSW - 22	4730-71-2377	~1,340	Unknown	Active
WSW - 23	4730-71-6471	~1,390	Unknown	Active
WSW - 24	4730-71-5489	~1,360	Unknown	Active
WSW - 25	4730-71-7533	~1,200	Unknown	Active
WSW - 26	4730-71-6725	~1,500	Unknown	Active
WSW - 27	4730-71-9473	~1,390	Unknown	Active
WSW - 28	4730-71-9525	~1,340	Unknown	Active
WSW - 29	4730-71-8676	~1,180	Unknown	Active
WSW - 30	4730-71-7891	~1,050	Unknown	Active
WSW - 31	4730-71-9804	~1,020	Unknown	Active
WSW - 32	4730-71-0817	~1,080	Unknown	Active
WSW - 33	4730-81-0733	~1,170	Unknown	Active
WSW - 34	4730-81-0683	~1,300	Unknown	Active
WSW - 35	4730-81-1534	~1,410	Unknown	Active
WSW - 36	4730-82-9206	~1,400	Unknown	Active
WSW - 37	4730-82-7349	~1,200	Unknown	Active
WSW - 38	4730-82-6627	~1,020	Unknown	Active
WSW - 39	4730-82-5787	~1,080	Unknown	Active
WSW - 40	4730-82-5846	~1,040	Unknown	Active
WSW - 41	4730-82-7987	~1,260	Unknown	Active
WSW - 42	4730-82-7349	~1,300	Unknown	Active

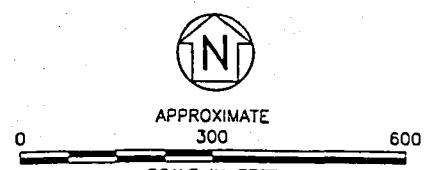
WELL #	PARCEL NUMBER	DISTANCE FROM SOURCE AREA (ft)	WELL DEPTH	ACTIVE/INACTIVE
WSW - 43	4730-71-1902	~1,100	281	Active
WSW - 44	4730-72-2809	~275	230	Actrive
WSW - 45	4730-63-9919	~1,400	Unknown	Active

Note: WSWs are keyed to Figure



LEGEND
— PROPERTY BOUNDARY
- - - EDGE OF WATER
● WATER SUPPLY WELL

BASED ON 2001 RECEPTOR SURVEY BY OTHERS AND JULY 2009 UPDATE PERFORMED BY H&H



TITLE	
PROJECT	
WATER SUPPLY WELL LOCATION MAP	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f)
Hart & Hickman A PROFESSIONAL CORPORATION	
DATE: 6-22-09	REVISION NO. 0
JOB NO: KID-004	FIGURE NO. 3

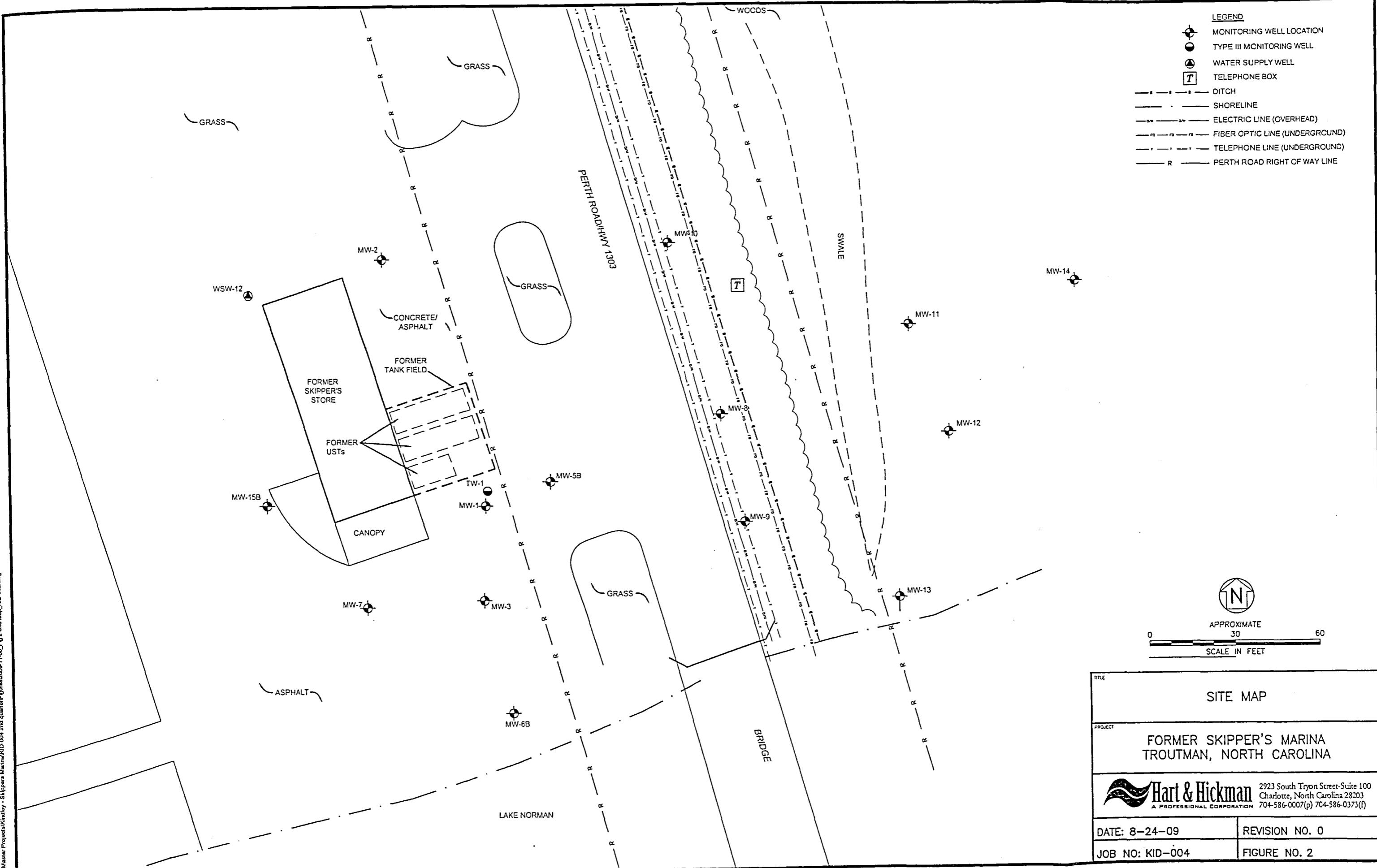


Table 2
Ground Water Analytical Results
Former Skippers Marina
Troutman, North Carolina
H&H Job No. KID-004

Method - 6200 B ($\mu\text{g/L}$)																				
Sample ID	Date	1,2,4-Trimethylbenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	Benzene	Chloroform	Ethylbenzene	m,p, and o-Xylenes	p-Isopropyltoluene	n-Propylbenzene	MTBE	n-Butylbenzene	Naphthalene	Styrene	Tetrachloroethylene	Toluene			
NC 2L Standard		350	0.38	0.51	350	1	70	550	70	70	530	NS	200	70	70	21	70	100	0.7	1,000
MW-1	4/3/2009	700	<0.5	<0.6	200	1,600	<0.5	1,200	<0.5	39	3,380	<20	<0.5	<1.0	110	400	<0.5	<20	<0.5	2,000
	7/27/2009	650	<5.0	<5.0	200	1,200	<5.0	650	<5.0	28	2,620	<5.0	<5.0	13	86	190	<5.0	6.7	<5.0	2,200
	10/26/2009	450	<5.0	<5.0	150	790	<5.0	480	<5.0	19	1,790	<5.0	<5.0	25	53	210	<5.0	7.1	<5.0	2,100
MW-2	4/3/2009	23	<0.5	<0.5	<0.5	0.7	3.3	<0.5	<0.5	6.2	12	<0.5	1.4	1.8	0.85	11	8.3	<0.5	<0.5	<0.5
	7/27/2009	26	<0.5	<0.5	<0.5	0.52	2.8	<0.5	<0.5	7.4	12	3.3	0.89	1.8	1.2	13	9	<0.5	<0.5	<0.5
	10/26/2009	32	<0.5	<0.5	<0.5	0.51	3.4	<0.5	<0.5	10	13	4.5	0.67	2.8	1.4	14	14	<0.5	<0.5	<0.5
MW-3	4/3/2009	1.6	<0.5	<0.5	<0.5	12	<0.5	24	<0.5	3.0	3.6	<0.5	<0.5	1.2	5.4	9.5	1.1	<0.5	<0.5	2.5
	7/27/2009	1.7	<0.5	<0.5	<0.5	11	<0.5	29	<0.5	5.0	7.0	<0.5	<0.5	1.2	6.7	10	0.74	<0.5	<0.5	11
	10/26/2009	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	6.6	<0.5	1.6	<1.0	<0.5	<0.5	<1.0	1.8	2.4	<0.5	<0.5	<0.5	1.1
MW-5B	4/3/2009	380	<0.5	<0.5	160	4,000	<0.5	1,000	<0.5	42	548	<20	290	<1.0	140	390	<0.5	<20	<0.5	150
	7/27/2009	320	<20	<20	140	3,500	<20	880	<20	50	310	<20	460	<40	140	330	<20	<20	<20	81
	10/26/2009	440	<20	<20	180	3,400	<20	1,100	<20	67	525	<20	520	44	180	410	<20	<20	<20	140
MW-6B	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
MW-7	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
MW-8	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	210	<1.0	<0.5	<2.0	<0.5
	7/27/2009	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	1300	<10	<5.0	<20	<5.0
	10/26/2009	<0.5	1.6	0.75	<0.5	0.66	<0.5	<0.5	3.2	1.4	<1.0	<0.5	980	<1.0	<0.5	<2.0	1.4	<0.5	<0.5	<0.5
MW-9	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0	<0.5	<0.5	2.0	<0.5
	7/27/2009	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	7.2	<1.0	<0.5	<2.0	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	1.7	<1.0	<0.5	<2.0	0.68
MW-10	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	4.2	<1.0	<0.5	<2.0	<0.5
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	7.4	<1.0	<0.5	<2.0	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	13	<1.0	<0.5	<2.0	<0.5
MW-11	4/3/2009	<0.5	9.7	<0.5	<0.5	3.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	7/27/2009	<0.5	8.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	10/26/2009	<0.5	4.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
MW-12	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
MW-13	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
MW-15B	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
TW-1	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5
WSW-12	4/3/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	0.71
	7/27/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	1.0
	10/26/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<2.0	<0.5	<0.5	0.69

Notes:
Bold indicates that concentrations exceed the sta

Only compounds detected in at least one sample shown

NS = No NC 2L Groundwa

NC 2L Standard=North Ca

Only sampled for Volatile Organic Compounds (VOCs)

Only compressed volume segments can be compressed.